THE
VETERINARY JOURNAL

MARCH, 1916.

Editorial.

OUR POSITION.

THE welfare of the whole body of our profession is intimately bound up with the standing of our governing, advising, and creating Council. It is to the interest of all of us that it should be strong, wise, able, and alert. If it is weak, vacillating, or lacking in foresight, our position will suffer, we shall lose weight in professional circles, we shall see others take from us what is ours by right and by reason. If it is forceful, wideawake, progressive, and discerning, we shall not only hold our own as a profession, but advance with the times. The lesson of the French proverb, "Aide-toi et le ciel t'aidera," needs taking to heart by us at present. Whatever may have been the opinion of some of us in days gone by when funds were more plentiful than they are now, and a few wondered why they were not used more liberally, yet to-day all reasoning men must see that the position is critical, and the majority of us surely would deeply deplore any cause bringing about a serious hindrance of necessary activity or the cessation of the only efforts which make our inheritance of the privileges of a corporate body existent, valuable, and worth while.

The matter of a sound financial status of the Royal College of Veterinary Surgeons is not a private one. It is a thing of paramount importance that concerns every member of the veterinary electorate. For this reason we think the electorate should be appealed to in the present crisis. In a body which depends for its position and prestige on the amount of its technical knowledge and learning, on its sound education in the science and art of veterinary medicine and surgery, it is deplorable that serious economies in connection with education should be suggested, even if only for a time. It would be invidious and harmful for a man to be referred to in after years as a graduate or student of 1916 or 1917 when veterinary science progressed backwards. "Economical" examinations are generally of poor

calibre, and by cutting down expenses in these directions there is a chance of spoiling the ship for the present and future for the sake of a few figurative ha'porths of tar. At any rate, retrogression is not justified until the whole of the profession has made its voice plain in the matter.

We do not believe that Councilmen are so friendless professionally as their actions and views at times would seem to suggest. We are certain that with many of us an appeal to our pockets will not be taken as an unpardonable insult, and if it comes to "those who can do may do," we fancy there will be a considerable majority in favour of the "cans." If we do not always see eye to eye with some of the decisions and opinions of the members of our senate, yet we appreciate and value much of their work, and can understand the chaos and irreparable loss that would arise without them and their activities. We can believe the statement made to us some time ago by a well-known and respected Councilman that few of the general body of the profession know how much good sound work the Council does. Much of it, by reason of being done in committee, never sees the light of publication, but it is by no means slight or unimportant.

Full play in all the fields of activity in which the Council figures, and should figure, and we should like it to take a fuller part in even wider fields than it now concerns itself with, necessitates a full purse. The sinews of work, no less than those of war, require ample funds. It is a matter of regret, therefore, that the income of the Royal College of Veterinary Surgeons has declined regularly in recent years. In 1909-1910 the annual receipts were £2,861 7s. 11d.; in 1910-1911, £2,719 4s. 10d.; in 1912-1913, £2,330 10s. 8d.; in 1914-1915, £2,320 7s. 6d. There is reason to fear that under present conditions a further drop will be noted. Existing methods are not adequate to keep us afloat and buoyant, and an appeal to the crew to help the vessel to cruise fearlessly and successfully should be made.

We would like to see many things which intimately concern the rights and privileges of members of our profession more securely guarded and safely protected. It is little use being in a profession if we are no better off than an ordinary member of the public. In many cases we are not so well protected from harm as the members of a tradesman's union, and in not a few cases the conduct of one veterinary surgeon to another is such

as a member of a trade union would not be guilty of. These things want altering by better discipline and sterner measures, as well as by a higher general sense of duty and conduct. Dirty actions ought to be penalized and effectively dealt with by a disciplinary body of our own members. Reprisals, which some advocate, only recoil morally on those who practise them, and render them as blameworthy as the original offenders, and as unentitled to support. The very important operation of keeping the poacher and quack out of our domain requires a plentiful supply of money. A full purse might enable us to take up a stronger position in animal-producing affairs, to have more influence in securing proper representation of our body in matters dealing with animals, to check slights put upon us, and to grasp situations which by all laws, human and divine, we are entitled to. Then the general intellect and culture of our circle might be improved by a well-equipped library, our practice be bettered by a few clinical hospitals under our own control, and our proper place be taken in questions affecting research into animals diseases. Such institutions as "Our Dumb Friends' League" would be under expert supervision if they existed, and we would add that some parsons (as Dean Welldon recently suggested) might be taught that human souls, children, and babies are more suitable objects for their care and consideration than horses, dogs, and cats. In many ways ample funds wisely used would mean brighter and better days for all of us. Now is the time to call all hands to the pump and stop the leak, so that we may plough our way to a productive land and take on board a fair and valuable cargo.

We could mention many more progressive matters that a strong Council might concern itself effectively with, but they all depend primarily on a full purse. We cannot both have our cake and eat it. There is a saving vein of generosity in our profession, and we feel sure that this particular disposition has only to be appealed to and touched for it to respond gallantly and in full measure. A successful appeal might achieve a twofold result by putting the Royal College of Veterinary Surgeons on a sound financial footing and helping on the War.

G. M.

MILK FEVER.

THE subject of milk fever is of perennial interest to the veterinary surgeon. Our pages have recently been occupied by articles and discussions on the matter. We are publishing this month an important contribution on "Parturient Paresis," by Dr. Alfred Guillebeau, of Bern, a Swiss veterinary surgeon. The literature on milk fever is copious, but far more attention has been directed towards the symptomatology and treatment than the pathology of the disease. Many cows have been treated in the past, and large numbers have succumbed to the complaint, but comparatively little *post-mortem* research has been conducted on carcases by skilled men. The vagaries of the udder, its vessels, and tissues have been almost entirely overlooked in this connection. Success in treatment has preceded a rational explanation as to why the therapy is so effective. Dr. Guillebeau supplies a reasoned theory as to the cause of the complaint, and one which has much to commend it.

Anaphylactic symptoms in general in the irritable stage are characterized by unrest, convulsions, copious dunging, exophthalmos, and blindness; these occur also in the first stages of parturient paresis. Similarly, in the paralytic stage in both affections we observe a comatose condition, muscular paralysis, refusal of food, weak pulse, superficial breathing, dung and urine retained, no fever, often subnormal temperature, and occasionally œdema of the skin.

The disease here is almost universally known as milk fever. It is a name like many others that we use that has no foundation in fact. The French call the malady puerperal coma or vitulary fever. The Swiss call it *parturient paresis*, and this name, we think, is the best one up to the present to describe the ailment. Since Schmidt brought forward his treatment in 1897 the lives of many thousands of cows must have been saved, and it is gratifying to note that in one country, at any rate, a scientific attempt has been made to solve the riddle of the causation of the disease. Perchance, veterinary research may once more aid human medicine and in this case help investigation as to the cause of parturient eclampsia in woman.

G. M.

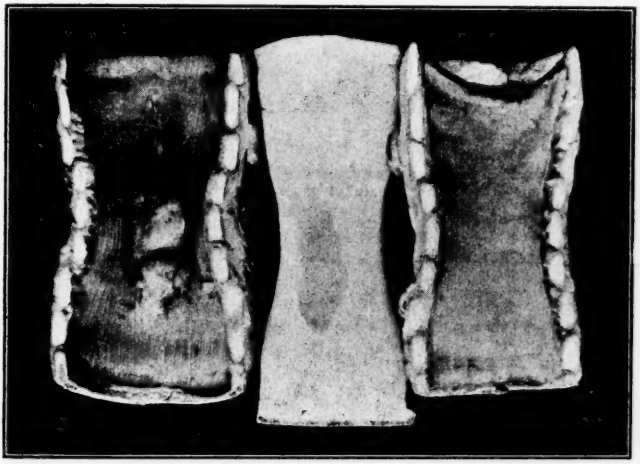
Some Interesting Pathological Specimens.

SEQUEL TO TRACHEOTOMY.

By Major R. C. COCHRANE, F.R.C.V.S., A.V.C.

Three interesting pathological specimens came under my observation lately, with the following history:—

Three horses were destroyed owing to the great distress in breathing, which was well marked on the slightest exertion. The tracheas were sent to me for examination. It was evident from their appearance that tracheotomy had been performed. There was considerable constriction with occlusion of the trachea, together with great thickening of the walls.



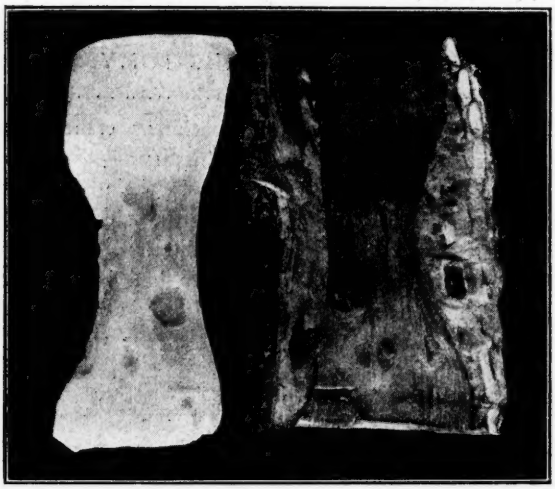
A *B* *A*

A, longitudinal section of trachea showing occlusion; *B*, wax model of lumen of trachea.

Lately I have seen another such case during life. It would be interesting to ascertain what proportion of horses that have had tracheotomy performed develop this condition, and whether cutting through a ring of the trachea and putting in too big a tube is responsible for it.

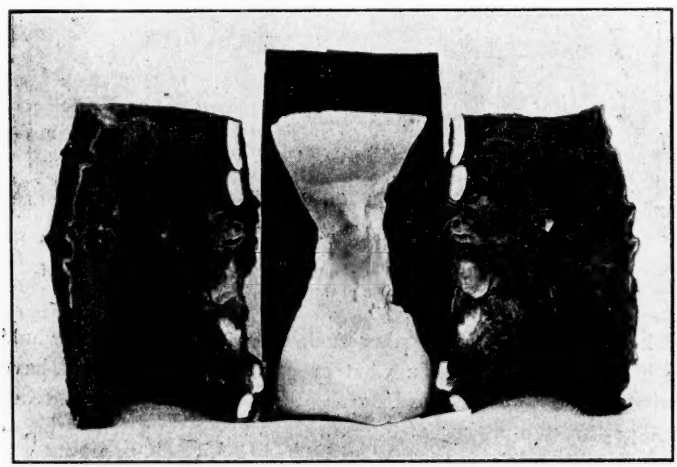
I enclose photographs of the tracheas and also of the models made of the tracheal constriction.

I am indebted to Staff-Sergeant Kiddell, A.V.C., for the photographs.



B *A*

A, longitudinal section of trachea showing occlusion and thickening of wall; *B*, wax model of lumen of trachea.



A *B* *A*

A, longitudinal section of trachea showing occlusion; *B*, wax model of lumen of trachea.

Clinical Cases.

THREE CASES OF RUPTURE OF THE DIAPHRAGM IN THE DOG.

By HAROLD STAINTON, M.R.C.V.S.
Kensington, W.

INSTANCES of rupture of the diaphragm in the horse have been reported many times in the veterinary press, but in the dog the lesion is not common, and on this account, if for no other reason, the following cases are of interest, particularly as they each had a different origin:—

The first case noted was from injuries self-inflicted. The second from injuries as a result of external violence. The third was undoubtedly congenital.

Case 1.—A Pomeranian, 14 months old, was brought to hospital with following history: The dog was accustomed to jumping into the air at instigation of the owner, and on the previous day had cannoned against the leg of a bedstead while performing this trick. The animal cried out, and proceeded to chew his lead and show other signs of pain. This occurred at 6 p.m. Later the dog settled down, but appeared dull, and a a dose of castor oil was given. Next evening he refused food and commenced to vomit, upon which he was brought to hospital. The breathing was then stertorous and jerky.

The stethoscope revealed no sound on the right side, but on the left side one heard exaggerated heart-beats, accompanied by a peculiar gushing noise. The patient died at 2 a.m. the following morning, having lived thirty-two hours after the accident.

A *post-mortem* examination revealed ruptured diaphragm, with stomach, spleen, and a part of the small intestine in the left side of thorax.

Case 2.—An Aberdeen terrier, 14 years old, brought to hospital with the following history: The animal had been turned out on the previous evening, and was found an hour later in the gutter, collapsed, and in great pain. On the morning it was brought to hospital it was obvious that there was severe bruising of the ribs and left fore-leg, which could not be put to the ground. In hospital the dog fed well, and the lameness improved.

On the night of the eighth day in hospital the dog suddenly

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began to vomit violently, and the breathing became very laboured. Death took place an hour later.

Post-mortem revealed ruptured diaphragm, with the anterior portion of the stomach in the thorax. The dog had been fed sparingly throughout.

Case 3.—An Irish terrier, 15 months old. It was brought to hospital, but was dead on arrival. An hour previous it had been seized with a sudden fit of coughing, and was observed to be gasping for breath.

A *post-mortem* examination was made at request of owner. and this revealed a rather startling state of affairs. In the peritoneal cavity were two floating kidneys suspended by a broad membrane attached to the lumbar region.

The remaining viscera—namely, stomach, intestines, spleen, pancreas, and liver—were in the thorax, and, further, the wall of stomach was blended or fused to diaphragm. The heart was on the right side, and the right lung was about half its normal size. The owner gave me the whole history of the dog from the age of three weeks. The dog had been with her constantly, and she had no recollection of any accident, but the following points are significant:—

The dog's breathing was always peculiar, and the animal was always breathless after running, however short the distance.

It always had a big appetite, and the abdomen was much distended after a meal and sometimes in pain. It always appeared to want its head supported, and would often rest its chin on a chair. It would cough at odd times, especially after feeding.

One day after a feed of lactol it was screaming and writhing in pain. It had always been noticeable that it could not seem to get into a comfortable position, especially after a meal.

During the last few days before being brought to hospital it had fits of choking and made attempts to be sick. I am convinced from the history and the way in which the stomach was fixed to the diaphragm that the rupture was congenital.

We publish this month the first of a series of Supplements to be contributed by our Australian colleagues, and which we feel certain will be appreciated by the profession in the United Kingdom. We hope to publish four such Supplements annually. [Ed., *V.J.*]

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ON THE PATHOLOGICAL ANATOMY OF MILK FEVER.

The Blood Capillaries of the Normal Udder.—A New Theory of Parturient Paralysis.

By Professor Dr. ALFRED GUILLEBEAU.

Bern.

The excellence of the treatment of milk fever fills the veterinary surgeon with a just pride. But this improvement has furthered the understanding of the malady but little, as the ever-growing and extraordinarily extensive literature on this matter proves. The discovery of the favourable effect of udder injections which resulted in the year 1897 through the Danish veterinary surgeon Schmidt, of Kolding, was above all a lucky incident. The incident is now, sure enough, an important factor in the lite of mankind.

One has presupposed the occurrence of a hyperæmia of the udder in parturient paresis. The milk gland in this ailment is often flaccid and gives little milk, but with these symptoms a

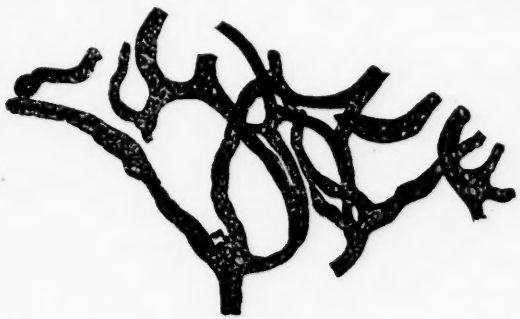

Fig. 1.—Loops of capillary vessels in udder of the cow. Natural injection. Breadth of vessels 6—9 microns. Fixation in chrom-osmium acid.

venous hyperæmia is always present, and the quick cure through the blowing in of gas can hardly depend on anything else but an improvement of circulation. An udder of 17½ lb. to 30 lb. weight will scarcely consist of more than half blood, this blood corresponding in quantity to that of a copious bleeding, and hence the coma is not produced solely by stasis of blood in the udder. The hyperæmia of the vessel may, however, be a part symptom of a generally diffused hyperæmia affecting the hind-quarters, and the therapeutic success be dependent on the circumstance that a powerful general effect can be produced from the udder on the blood-vessels. Blood-pressure determinations by Seitter (Dissertation at Zurich, 1910) showed, in fact, that by

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gas injections into the udder the blood-pressure in the cow and goat is considerably raised, and may continue elevated for eight hours. The udder hyperæmia is, as far as I can see, quite a theoretical conjecture; whether it really occurs in fact is a justified question, and this is a matter which deserves attention here. My notice claims to be no more than a reasoned summing up of the pathological anatomy of parturient paresis. But in order to establish my production of proof convincingly, I describe first of all the normal relations of the capillary vessels (see also dissertation in Bern by J. Ibel, 1903).

On the cavity wall of the alveoli lies a polygonal network of capillary tubes (fig. 1). The sides of the polygon measure 12

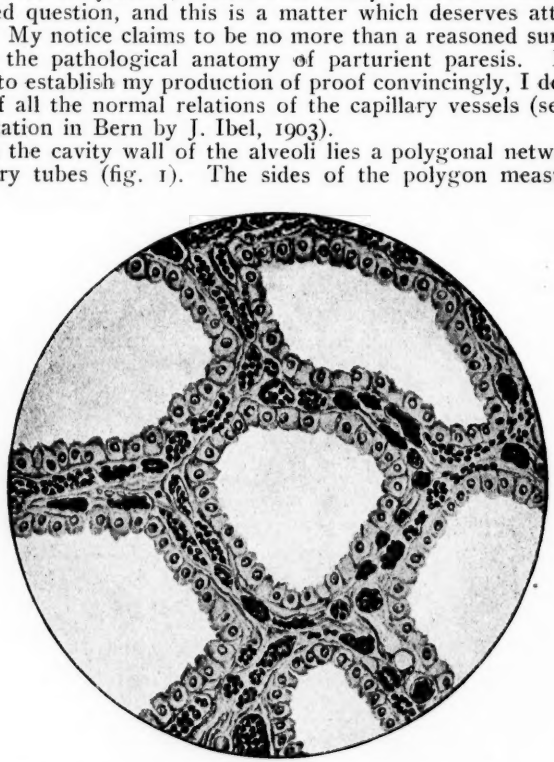

FIG. 2.—Section through the udder of a cow. Natural injection. Breadth of vessels 9—12 microns. Fixation of vessels in chrom-osmium acid.

to 15 microns. But since the size of the alveoli is subject to a great variation according to the degree of their fulness, so the polygonal vessels must correspondingly possess the ability in a considerable measure to expand and contract. The organ of which I give a representation here is, as a result of vascular paralysis, in a condition of natural injection. I believe that the capillaries in an active gland are of the same breadth as in the illustration, but I cannot say definitely. Of the polygons, one only sees, as a rule, in a microscopical preparation oblique and distorted sections.

The walls of the septa between the alveoli are extremely thin, and it is conceivable that the blood capillaries on each side share in the blood extravasation which is necessary for the formation

of milk. The reader may meanwhile notice in fig. 2 that each alveolus has its capillary network. Such a one need not serve two masters. If one alveolus stretches out quicker than the other, yet each retains those circulation conditions which appertain to it.

The illustration concerned is taken from a cow which was slaughtered by order of graduate Bach, of Thun, on January 15, 1903. Several vessels in this section have their maximal diameter. They are in every case much broader than in the normal udder. A few appear to be of normal width. These possibly had a sufficient circulation, in order to be capable of

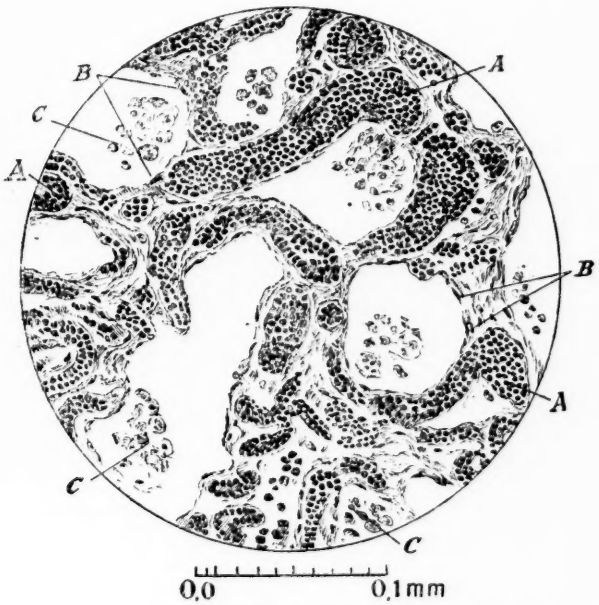

FIG. 3.—Section through the udder of a cow which suffered from milk fever. *A*—Distended capillaries; *B*—So-called basket cells; *C*—Shed gland epethelium.

slight milk secretion in this case. The vessels had the following diameters: Normal gland, 6 to 12 microns; in the case under consideration 6, 18, 24, 30, and 45 microns. The organ was therefore without doubt overloaded with blood, the circulation delayed or pressure raised, and the activity of the udder checked. The blood contains at the most but one or two white blood corpuscles, so that leucopenia is present. To throw light on milk fever, one is concerned in every case with a vessel-widening cause as well as with a nervous influence. It should occasion no sur-

prise to discuss the nerves here, for milk secretion without specific innervation is not understandable. There is a very full nerve life in the udder, and it is very perfectly regulated.

Various matters are concerned in milk formation. Gland epithelium and blood are indispensable. According to Aristotle, "milk is parboiled from the blood," and, in fact, the latter forsakes the blood-stream in the udder in order to change itself into milk. The process necessitates a special structure of vessel and special nerves. How important these anatomical relations are teleangiectasis (a permanent dilatation of groups of capillaries and arterioles) proves.

The case which I give as an example of this anomaly is not new. Stenzel and Hess have described it before. A 5½ year-old milk cow which had calved seven months previously gave no milk out of one of the right quarters of the udder, although the section of the gland was apparently normal. The quarter concerned had never been ailing. The alveoli were smaller, the interstitial tissue broader. It contained two to seven closely grouped blood capillaries of 5 to 24 microns broad, with strong 1 to 5 micron thick walls. Between the vessels were connective tissue nuclei, and between the epithelia leucocytes. The capillaries contained very much blood, but the living ducts were incapable of blood extravasation. As a result, in the first pregnancy there was no great and active new formation of vessels in one quarter, and secretion remained in abeyance.

We presuppose in all cases that the normal maintenance of a tissue with blood-vessels is somewhat independent. Generally it is so, and yet this condition may be absent. Failure or superabundance of vessels is always a fact of great significance. In embryonal life lack of vessels causes giant growth; a superabundance brings about aplasia. An unequal development of vessels and tissue is possible, and these have a varied origin in the embryo. The vessels arise from the vitelline vesicle, and the appropriate penetration into the tissue is very desirable, but not always achieved.

The knowledge of milk fever has experienced a considerable advance through the investigation of anaphylaxia (over susceptibility) (Hutyra and Marek, Van Goidsenhoven, Thum). Anaphylaxia (ana=over, phylax=guard or watcher) is a special condition of the organism which arises from a foreign albumen in the blood. The albumen is derived from another species of animal and is consequently not inherent, or it is drawn from an organ of the animal concerned as the lens, placenta, testicles, hæmoglobin, milk, and belongs to the *specific organ albuminates*, which are plainly different from blood albumen and are foreign to the blood. The albumen concerned in anaphylaxia is designated as antigen (anti=against, gennao=I produce or generate). The antigen for the production of anaphylaxia is injected directly into the blood-stream or into the abdominal cavity. Subcutaneous injections are little suitable for this object. In the stomach the foreign albumen is generally changed, yet in special cases also from the stomach (*e.g.*, milk in guinea-pigs, strawberries and cancer in idiosyncrasy of men) anaphylaxia

occurs. One circumstance is now very characteristic. The animal does not fall ill on taking up the foreign albumen. There arises, on the contrary, an antibody which gradually does away with the foreign albumen. During the change (nine days to several weeks, according to the amount of the foreign albumen) no antibodies can be proved in the blood because these are bound up with the antigen (pro-anaphylactic stage). After the termination of this period the effective and now free antibodies remain in the organism for a very long time (one half to seven and a half years). The one is attached to the blood and the other anchors in the tissue cells, especially those of the brain. New albumen

FIG. 4.—Section through a cow's udder with teleangiectasis.

arrived there or changed in the blood, then the antibodies unite with it, and a poisonous substance arises which causes severe disturbances. One describes the latter as an anaphylactic choc. Especially important is the fact that this hostile occurrence only becomes present on the taking up of *a sufficient* quantity of the foreign albumen. This has been established by a series of experiments. Repeated intravenous injections at intervals of three or five minutes of at first small and then increased amounts of antigen hinder the choc. The condition of anti-anaphylaxia arises which is not identical with normality, because the individual, as a result of removal of the foreign albumen and freeing of the antibodies, becomes anaphylactic in a typical way.

Anaphylaxia occurs in sucking animals, birds, and cold-blooded vertebrates. In cattle it was repeatedly noticed after simultaneous inoculations against anthrax, because with the protective bodies horse serum also gets admitted to the injection.

Anaphylaxia always shows the same type of symptoms; the form changes but little from one species of animal to another. It is proved by the generation of the choc. As the most im-

portant, never-failing change is a sudden paralysis of brain activity and the vaso-motor nerves, marked by collection of blood in the hind part of the body. The other symptoms correspond to a first irritable and a subsequent paralytic stage of which the first is often short, so that it may be easily overlooked. The symptoms of anaphylaxia in general, cattle anaphylaxia after protective inoculation, and the anaphylaxia of milk fever bear a resemblance in some particulars. There is an irritable stage and a paralytic stage, the phases and symptoms of which resemble each other rather closely. Death may result in the stage of excitement or paralysis. If the animal gets well recovery is very quick. After one to two hours improvement is perceptible; from twenty-four hours to three days all bad symptoms are past. After parturient paresis cows give somewhat less milk.

In experimental anaphylaxia an irregular course is very frequent, because the test subdues many unexpected influences, and this incalculableness is not wanting also in the anaphylaxia of practice. Hutyra and Marek (*Spec. Path. and Therapy of Dom. Anim.*) and Van Goidsenhoven (*Annales de Méd. vétér.*, 1910) are of opinion that purturient paresis might depend on anaphylaxia through milk. The casein, which undoubtedly belongs to the specific organ albuminates, is, during the early days of the dry condition, absorbed before parturition. At this time the pro-anaphylactic stage commences, and the anaphylaxia is prepared at parturition. Ernest Hess, in a noteworthy study of milk fever, considers that a long condition of dryness appears to favour the occurrence of the malady. It is quite conceivable that in the re-awakening of lactation after calving the milk flow is upset by stoppages which bring about a reabsorption of the fluid. If this occurs in sufficient quantity then the choc arises, which in this case is known as milk fever.

The udder, besides casein, contains ferments which may also be reabsorbed as specific organ-albuminates. At the end of a lactation period, and at the beginning of the following period, these ferments are present in considerably greater quantities in the udder than at other times. In this connection it may be noted that in guinea-pigs, not only after intravenous inoculation, but even from anaphylaxia produced from the stomach, the subsequent inoculation of milk under the dura mater brings about a choc.

The assumption that the placental albumen or uterine milk in woman (Thum) may produce an anaphylaxia similar to that of milk fever is based on further conjecture than the impeachment of the udder secretion. It must not be overlooked that experiments with milk and placenta in the cow have led to no result, and the whole assumption of experimental proof is lacking. In spite of this there seems little doubt that there is a real relationship between milk fever and anaphylactic choc. Most cows through the dry stage are put in a condition of milk anaphylaxia, but only exceptionally the absorption of the secretion of the udder occurs in quantity after a birth, which must bring about a choc as a result.—*The Swiss Journal of Veterinary Medicine.* G. M.

The Profession in India.

OPENING OF THE NEW PUNJAB VETERINARY COLLEGE AT LAHORE.

BEFORE describing the proceedings of the opening ceremony performed by His Excellency the Viceroy of India, it will perhaps be better to premise a brief description of the general arrangement and accommodation of the new College, in order to give the reader an idea of the institution in its present reorganized condition.

The College may well be described as *new*, for, although the institution has been in existence since 1882, it has now been removed to a new site, and has been completely remodelled by Colonel Pease, the Principal, the buildings, &c., of the various sections having been planned and arranged in accordance with the requirements of a modern veterinary college and hospital. The College now occupies an area of over 22 acres; and, in addition to this, there are 10 acres of land adjoining the College which have been reserved for a hostel to accommodate 200 students.

The College compound may be roughly divided into three sections, namely, a south quadrangle, consisting of a clinical block on the east with three rows of stables, one each on the north, south, and west. The shoeing-forge is situated at the south-west corner of the quadrangle, and behind the row of stables on the south is a water-tower and well fitted with an electric pump, affording a constant supply of fresh water. The row of stables on the west side has a special room for the College ambulance car. There is also the house-surgeon's quarters in this section, conveniently situated near the main entrance of the hospital.

The main block of the College is in the centre of the compound, forming the east member of the second quadrangle, of which the anatomical block and the students' operating-room form the south, the dog hospital the west, and the research laboratory the north side. Still further to the north, behind the laboratory, is the infective diseases hospital with its well-isolated blocks of stalls, &c., forming a walled-in section of its own, completely separated from the rest of the College. On the east side of the infected diseases hospital are located the residential quarters for the Principal and for some of the professors; while the quarters for the laboratory assistants, farriers, and menial

servants are built on lower ground on the west of the south quadrangle. The *post-mortem house*, the macerating-room, and the incinerator are also located on the lower ground behind the dog hospital.

The "*Hallen Block*" is the main building of the College, and contains the Principal's office, the clerks' room, the museum, the library, a combined pharmacy and chemistry room, two lecture theatres, as well as professors' rooms, students' common rooms, post-graduate rooms, record room, &c. The "*Nunn Anatomical Block*" has a large, well-lighted dissecting room, an osteological room, anatomical museum, and a lecture room, as well as rooms for the professor and the demonstrator of anatomy.

The "*Pease Research Laboratory*" contains two well-lighted laboratories for professors, a large general laboratory for students, a lecture theatre, as well as offices for the professors and their assistants, and the artist's studio. There are also rooms for the preparation of culture media, &c., and for sterilization, incubation, laboratory animals, &c., also a cellar for cold storage.

The "*Kettlewell Clinical Block*" includes a large shed for the outdoor clinic, an operation theatre for large animals, a dispensary, drug store, instrument room, and a boiler room for hot water. It also has offices for the professors of surgery and bovine pathology, the house-surgeon, and clinical clerk, as well as colic-boxes, irrigating stalls, and a long trotting shed attached to the front of the block.

The *Dog Hospital* has a special block of its own, and contains separate wards for the infectious and non-infectious diseases, an up-to-date operating room, a dispensary, dressing-room for surgical cases, and an office for the professor in charge. It also has a kitchen and quarters for the attendants.

The College, hospital, and laboratory are well furnished and fully equipped with all the modern appliances and instruments; and, in addition to a large professoriate, consisting of the Principal, six professors, and twelve assistant professors, lecturers and demonstrators, there is an ample establishment of ministerial and menial servants in the various sections under the professors in charge.

The Opening Ceremony.

His Excellency the Viceroy performed the ceremony of opening the New Punjab Veterinary College at Lahore on Friday, December 10, 1915. The ceremony took place in a spacious *Shamiana* (marquee), which was suitably decorated, and provided

seating accommodation for more than 300 persons, besides the daïs for the Viceroy and the Lieutenant Governor. There was a large attendance of both European and Indian gentlemen, including the Judges of the Chief Court, members of the Legislative Council, and the chief officials of the Province. There were also present some 200 students of the College, including seventy military students in uniform.

His Excellency, who was accompanied by His Honour the Lieutenant Governor of the Punjab, arrived at the College by motor-car from Government House at 11 o'clock in the morning. The Viceroy was received by Colonel H. T. Pease, C.I.E., Principal of the College. The police band played the National Anthem, and His Excellency inspected the guard of honour of the 1st Punjab Volunteer Rifles under Captain Longdin. A procession was then formed at the door of the *Shamiana*, and escorted the Viceroy to the daïs in the following order:—

The Lieutenant Governor's Staff; Colonel H. T. Pease, Principal of the College, and Mr. C. A. H. Townsend, Director of Agriculture, Punjab; the Honourable Mr. C. A. Barron, Chief Secretary, Punjab; His Excellency's Staff; His Honour; His Excellency. The Chief Secretary declared the proceedings open.

Mr. Townsend then introduced to His Excellency the following Professors of the College: Mr. W. A. Pool, Mr. W. Taylor, Mr. E. Burke, Khan Bahadur Sayad Gilani Mahtab Shah, Khan Sahib Sayad Gilani Sardar Shah, Kahn Sahib Ghulam Hussain Khan, and Khan Bahadur Dr. Amir Shah (retired).

Mr. Townsend now read an address to the Viceroy as follows:—

"May it please Your Excellency,—It will perhaps be not inappropriate of me, on this occasion of the opening of this fine College, to give a brief history of its career.

"The Lahore Veterinary College sprang from a most humble origin. It owes its inception to the late Colonel Hallen, C.I.E., a member of the old Indian Veterinary Department, and first Inspector-General of the Civil Veterinary Department. Veterinary work in this country is under very great obligations to him; and Indian animals would doubtless, if they were conscious beings, keep his birthday as that of one of their greatest benefactors.

"Colonel Hallen, as a member of the Cattle Plague Commission, and as General Superintendent of the Horse-breeding Department, realized the necessity of some institution in India to impart veterinary education. He knew the havoc wrought by cattle plagues; he also knew how much valuable stock in various parts of the country died from curable diseases owing to the absence of proper attention and medicine. Indian cavalry again and the Transport Corps had no veterinary service, though their need was imperative. Accordingly, in the late 'seventies Colonel Hallen, realizing that there was no chance that any ambitious scheme for veterinary education would be considered at the start, obtained sanction to the formation of a small class for veterinary instruction at the Hapur Remount Depôt in the Meerut district.

and persuaded some district officers and cavalry regiments to send men there for training. Two English veterinary officers carried out the teaching work, which was confined to the more common diseases of the horse. The school did useful work. But the decision of the Government to close the Remount Depôt at Hapur in 1881 reduced the number of animals available for clinical teaching to the students to such an extent that it was obvious that the school must be moved elsewhere if it was to turn out well-trained men. By the orders of the Punjab Government, a Committee was assembled at Lahore to consider the advisability of opening a veterinary school there. The Committee recommended this should be done, and the recommendation was accepted by Government and the Secretary of State. Accordingly, the Lahore Veterinary School was opened in an old bungalow in 1882, with Inspecting-Veterinary-Surgeon Kettlewell as Principal, and Mr. John Burke, who had been teaching (Mr. Burke's son, I should note, is now one of our most esteemed professors here) at Hapur, as Assistant Professor. As regards other teachers in veterinary science, a serious difficulty arose: none were to be had, so recourse was had to the medical department, who provided two excellent lecturers—Dr. Rahim Khan, who lectured on Materia Medica; and Dr. Amir Shah, who lectured on chemistry. The good work these gentlemen did for many years was, I am glad to say, recognized by Government, both receiving the title of Khan Bahadur. The whole of the students were transferred from Hapur, and the Lahore school was in every way an improvement on that which had existed there. More buildings were gradually acquired or erected, and the number of students steadily increased, those who had gone through the school soon showing their usefulness when they passed on to work in regiments or districts. Mr. Burke retired in 1887, and a graduate of the College, Syed Mahtab Shah Gilani, was appointed demonstrator in anatomy; while in the following year two other graduates of the College, Syed Sardar Shah Gilani and Raja Ghulam Hussain Khan, were appointed hospital assistants at the College. All three of these gentlemen, I am glad to say, are still with us as professors; most of them have written text-books on their subjects, and the excellent work they have done has been recognized by the grant to all of them of titles by Government.

"In 1890 Veterinary Captain Nunn succeeded Colonel Kettlewell as Principal, and during his time considerable additions to the buildings were made. In 1896 Captain Nunn was, in his turn, succeeded by the present Principal, Colonel Pease, C.I.E., who remained here till 1907. From that year till 1912 Colonel Pease was Inspector-General of the Civil Veterinary Department, but on the abolition of the latter post in 1912 he returned to his earlier love, this College. Its great success of late years is due in great measure to his enthusiasm for his profession, his organizing capacity, and his energy and hard work. A monthly veterinary journal in Urdu was now started, and vernacular text-books in all subjects prepared.

"A demand was, however, arising for more highly trained veterinary assistants as the Civil Veterinary Department expanded; the training which sufficed for military requirements was found insufficient for district work. In outbreaks of serious diseases in the Army the British veterinary officers could always be called in to deal with them; the civilian veterinary assistant had to be prepared to do the work without assistance. So, as the result of a conference held in 1899 at Ambala, the course of instruction was lengthened and many new subjects added.

"The abolition of the Ajmer Veterinary School in 1904 necessitated a further increase in our buildings, as all the students and the three Indian professors were transferred here, and the European staff was also strengthened. A still further elaboration, however, of the course of training was rendered necessary before many years had elapsed by the expansion of district work and the increased use of sera and vaccines in combating contagious diseases; it was also essential for the more highly trained men who were required for district work to fill the newly created post of Deputy-Superintendent. It was accordingly decided in 1914, while keeping the ordinary three years' course for military students, to introduce a four years' course for civilian students, and also to institute a post-graduate course in English to last for one year.

"Meanwhile the King Edward Memorial scheme necessitated the removal of the College, in order to make room for the Medical College, to its present site, and the result has been the erection of this fine building. I will not waste Your Excellency's time in describing the buildings to you; a short personal inspection will, I hope, prove to you that we have now a very fine College, certainly the best in the East, and equalled by few in Europe. There is a large staff of professors and lecturers, and everything necessary for a sound veterinary education has been provided. The cost of this building and the site, which is nearly 23 acres in extent, is six lakhs and seventy-one thousand (6,71,000) rupees. Our best thanks are due to Mr. Sullivan, the Government architect, to whom we are indebted for much of the excellence of the design; and to Mr. Dorman, executive engineer, and his assistants for the good work done in the erection of the building.

"Ever since its inception the College has been most popular and most successful. It has turned out many hundreds of students, who have done excellent work both in military and civil life. Many old students of this College are on active service with His Majesty's Forces in France and Mesopotamia. Although the classes are large, the number of applicants for admission has always been far in excess of the vacancies. Much of this success is due to the fact that this is the only veterinary college in India in which, apart from the short post-graduate course mentioned above, all the teaching is given in vernacular. This enables us to get as students men from the agricultural classes accustomed to handle animals, and many of these men do not know English, but are none the worse veterinary practitioners on this account.

"I have already mentioned what the College owes to Colonel Pease. It owes much to all its professors; among them perhaps the most prominent have been Messrs. Kettlewell, Nunn, Smith, and Gaiger. The more prominent of the Indian professors I have already mentioned. I would add to the name of those already mentioned Ghulam Rasul. I now ask Your Excellency to declare the College open."

THE VICEROY'S SPEECH.

"Your Honour, Ladies and Gentlemen,—The address that has just been read has given us a most interesting account of the development of veterinary teaching in the Punjab from very small beginnings, and Colonel Hallen would have been a proud man could he have lived to see this day and realize that this splendid College has been evolved from the small class for veterinary instruction that he originally started at Hapur. That class contained the nucleus of a great idea that has gradually developed and forced its way to the ample recognition we see bestowed upon it to-day.

"But I do not think that this result would have come about unless the successors of Colonel Hallen and the professors and lecturers, who have done such excellent work, had played their own part with zeal and enthusiasm, and these qualities have been especially conspicuous in the present Principal, Colonel Pease, who, after five years' absence on other duties, returned to the College, and now has the happiness to see crystallized in this building the result of many years of effort, thought, and labour. I have been particularly interested to learn that the main course of studies is conducted in the vernacular, while English is the language of the post-graduate course. There is more than one school of thought as to whether the medium of instruction in our higher educational institutions should be English or the vernacular, but I think few will be found to question the wisdom of the policy adopted here, for many of those who are most fitted by their home surroundings for a useful veterinary career have neither the time nor the inclination to become versed in the Western culture, and it is hardly open to question that it must be far easier for them to imbibe a knowledge of veterinary science when imparted in their own tongue than if it was complicated by the mysteries of a foreign language. On the other hand, post-graduate courses necessitate the study of a wider range of literature, and there are obvious reasons for their being conducted in the English language.

"These buildings have been designed on a generous scale, and it is well that it should be so, for the demand for veterinary experts is rapidly increasing. The number of students has just doubled in the past ten years; and whereas twenty years ago there were only twenty-six veterinary dispensaries in the old undivided province of the Punjab, there are in the present province no fewer than 121. In the same period the number of animals treated has risen from 50,000 to 400,000.

"The address claims that this is the finest veterinary college in the East, and I can well believe it is true, nor is it altogether unfitting that the Punjab should take the lead in veterinary enterprise. This province has long been famous for its breeds of cattle and horses, the bullocks of Hissar, the buffaloes of Rohtak, the cows of Montgomery, and the sturdy speckled cattle from the Dhami Tract of the Salt Range are all well known to fame, while the horses from the Dhami Tract and Dera Ghazi Khan have more than a local reputation. The *Sardars* and *Maliks* of the Punjab have always loved their horses; perhaps that is partly the reason why more has been done in this province than in any other for horse breeding. The horse-breeding scheme in the Lower Jhelum Colony has recently been subjected to a very severe test on account of the demand for remounts due to the War, and has been able to meet it with conspicuous success. Under the operation of this scheme there has now for several years past been an average of something like 1,800 foals born every year, and it is believed that the limit has not yet been reached. It is hoped that in a year or two Government will be able to rely on a steady supply of a thousand mules a year from the Lower Chenab Colony alone. Of the four grantee Camel Corps at Lyallpur, three have now been called up for active service. Large areas of land have been set apart on the Lower Bari Doab Canal for the encouragement of horse and mule breeding, and under the conditions of that scheme the grantee will maintain no less than 7,000 mares for breeding purposes.

"We have been told that many old students of the College are at the Front on active service in France and Mesopotamia, and they will there have opportunities of first-hand observation of the wonderful work that is being done under the auspices of the Blue Cross Association to alleviate the sufferings of sick and wounded horses. I have no doubt that they, like their brothers in the fighting forces, will play, and have played, their part in maintaining the high reputation of India, and I can wish the College no better fortune than that the young men who pass out of her portals may bear upon their brows the seal of enthusiasm for their profession, and carry, wherever they go, a reputation for care and skill and tenderness for these dumb creatures to whom mankind owes such a heavy debt of gratitude.

"I congratulate all who have had a share in bringing this building to a successful completion, and not the least Mr. Sullivan, whose architectural designs have so happily materialized, and I now declare this College open."

At the close of his address the Viceroy was conducted round the College buildings by Mr. Townsend and Colonel Pease. The Viceroy's party also paid a tour of inspection, escorted by the College professors. When leaving His Excellency was given a hearty send-off by the students and visitors, and accorded three ringing cheers.

E. BURKE,
Professor of Surgery, Punjab Veterinary College.

Lahore, India,
January 19, 1916.

ARMY VETERINARY SERVICE.

TEMPORARY Lieutenants relinquish their commands: E. J. Nicholson, H. Bidlake. To be temporary Lieutenants: J. B. A. Hare, T. W. Smith, H. Jewell, W. J. Moody, F.R.C.V.S., J. E. Syme.

Captain W. H. Savage, from the Welsh (Carnarvon) R.G.A., to be Captain.

Temporary Lieutenants to be temporary Captains: M. Pilkey, G. H. Ward, J. H. Laurie, E. V. Hobbs, J. O. Guertin. Christian names of temporary Lieutenant (now temporary Captain) Joseph Orpha Guertin are as now described.

T. C. Howatson to be temporary Lieutenant.

Major R. L. Cranford to be temporary Lieutenant-Colonel while holding an appointment as Assistant Director of Veterinary Services. Surname of temporary Captain H. E. Whitemore is as now described. Temporary Lieutenants to be temporary Captains: W. D. Brand, C. E. Wolfe, R. D. Macintosh, J. L. Williams.

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